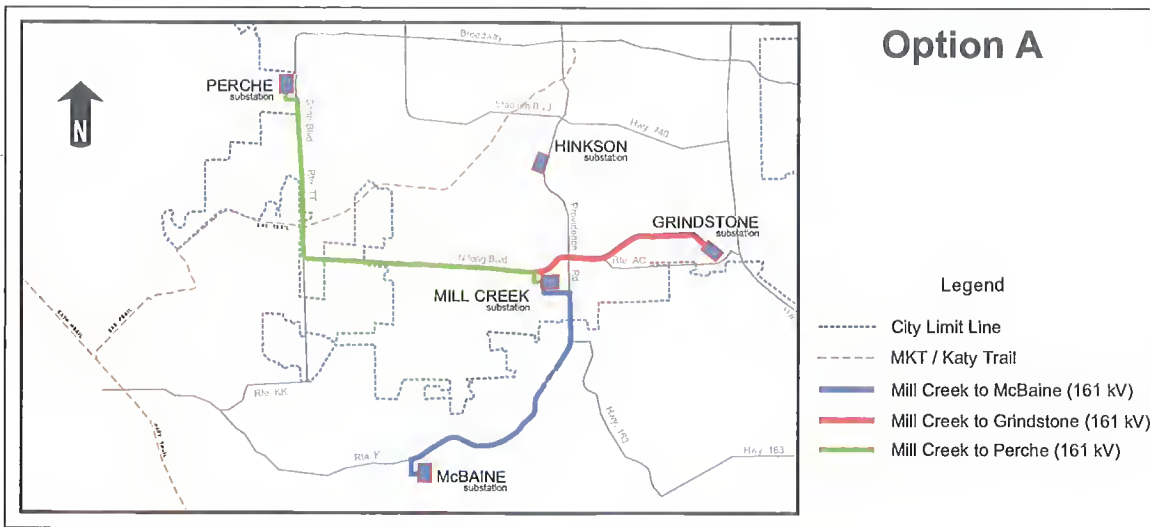
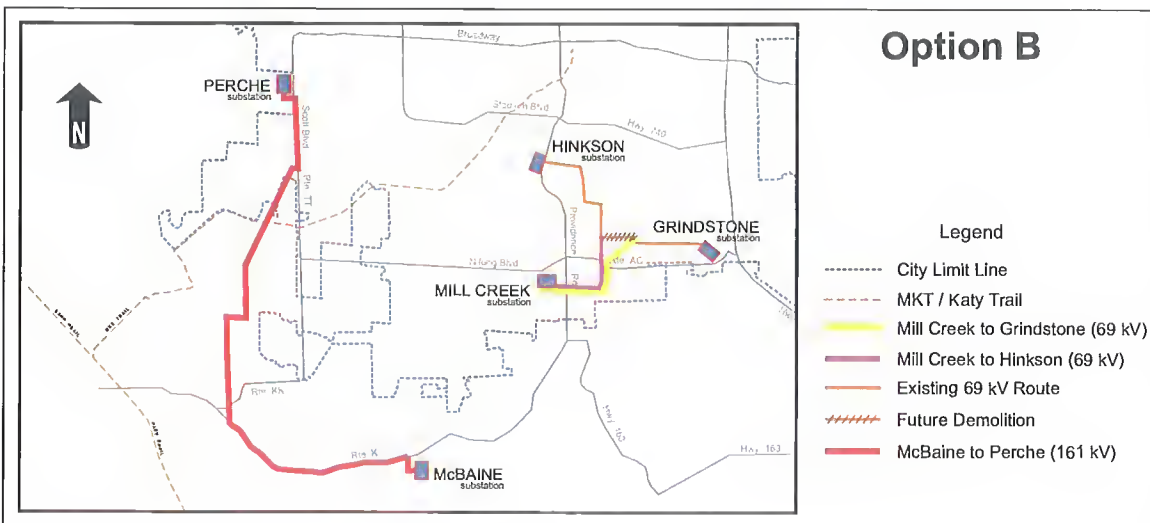


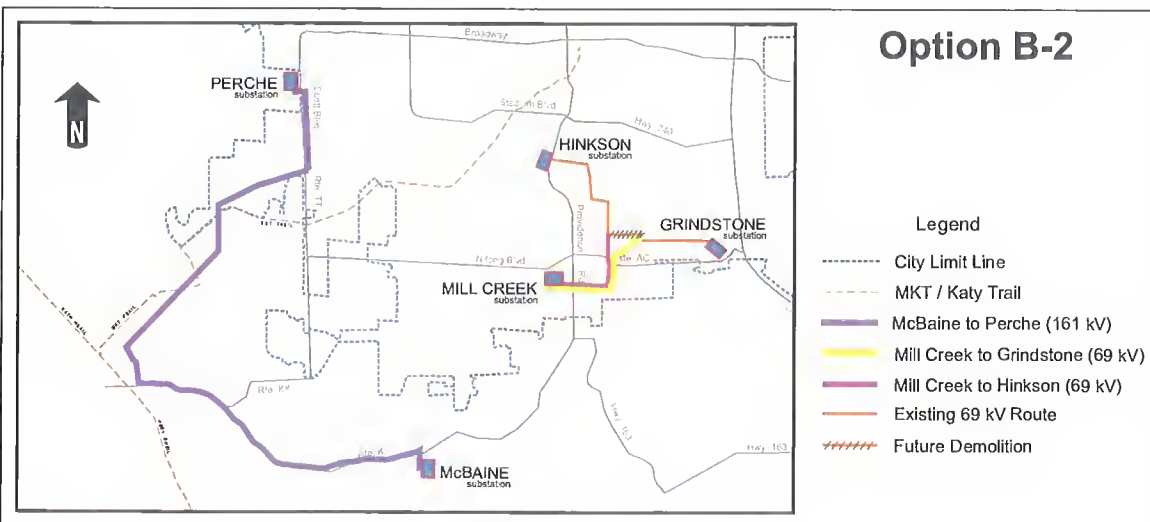
# Columbia's Electric Transmission Line Project Overview



**OPTION A:** Uses 161 kilovolt lines. This option provides the longest term solution for electric load growth. Uses developed right-of-way corridors and is easiest option to maintain. This option provides greater reliability with fewer possibilities for power outages than the other options. No disadvantages from an engineering/utility standpoint.



**OPTION B:** Uses 161 and 69 kilovolt lines. This route is the shortest in length, utilizes some existing transmission line paths and solves the current federal reliability requirements. Since this route uses some lower-voltage lines, it will support electric load growth for a shorter period of time, and can be overloaded more easily. This route contains more cross-country paths which are more difficult to access and maintain.



**OPTION B-2:** Uses 161 and 69 kilovolt lines. From an engineering standpoint, the advantages and disadvantages of this option are the same as option B. However, it is longer in length and has more angles than B so will be more difficult and expensive to build and maintain. Easement costs are expected to be lower for this option since the route includes more city-owned property. The route runs parallel to a section of the MKT trail and crosses it three times.

# Columbia's Electric Transmission Line Project Overview

Columbia Water & Light needs to build new transmission lines in the southern part of our community to reliably deliver electricity and meet federal reliability standards. The transmission lines will connect the new Millcreek substation on Peach Court with existing substations. Transmission lines move energy from where it is produced to substations, which lower the voltage for distribution lines to carry the power to homes and businesses. After gathering input from those living in the area, three possible routes to run the lines were developed: Options A, B, and B2. Maps of the routes are on the reverse of this page.

## Estimated Costs & Potential Rate Impacts of Constructing Electric Transmission Lines

	Option A	Option B	Option B-2
Estimated years before more improvements are needed	20 +	10 to 20	10 to 20
Miles of 161 kilovolt lines	12.07	6.99	9.84
Miles of 69 kilovolt lines	0	2.97	2.97
Total construction cost: overhead	\$13,135,117	\$10,151,122	\$12,229,788
Total construction cost: underground	\$91,898,566	\$75,833,448	\$97,532,778
Cost/Customer each month for 20 years: overhead	\$1.18	\$0.91	\$1.10
Cost/Customer each month for 20 years: underground	\$8.26	\$6.82	\$8.77

### Note:

Electric system projects are paid through utility rates, not through tax revenues. Easement costs could add 6-10% to the costs listed in the table. The cost estimates are based on using voter approved bond funds which are the lowest cost financing option, paid back over a period of 20 years.

**Underground VS Overhead Lines:** Underground electric lines are less noticeable, less susceptible to physical damage like bad weather, and don't require the regular tree trimming overhead lines do. However, burying transmission lines is more complicated and expensive than distribution lines due to the high voltage of the lines. The construction process causes property disturbance, the permanent removal of all nearby trees and shrubs, and restricts future land development over and near routes. Underground lines are more expensive to maintain and the electric lines have half the service life of overhead lines.

## Survey Results

WHAT FACTOR IS MOST IMPORTANT IN DETERMINING THE FINAL ROUTE?

1. Reliable electric service: 9,232 or 16.2%
2. Option provides longest-term solution: 8,724 or 15.3%
3. Least cost to build/minimize rate impact: 7,207 or 12.6%
4. Proximity to residential homes (this includes apartments): 7,158 or 12.5%
5. Environmental impact (trees cleared, wetlands disturbed, etc.): 6,725 or 11.8%
6. Negative aesthetic impact on city, neighborhood, or recreational areas: 6,655 or 11.7%
7. Proximity to schools, day cares, churches, hospitals, and/or nursing homes: 6,419 or 11.3%
8. Proximity to commercial businesses: 4,927 or 8.6%

## SELECTION MATRIX RESULTS

The preferences and concerns were entered into an algorithm in a selection matrix that assigns them a score according to their importance. Because most decision factors are negative or unfavorable, the option receiving the least negative score is determined to be the most publicly favorable. The results of the selection matrix are very close. The final scores for all three options are within a single percentage point difference from each other.

- Option A: -36,341
- Option B: -35,739
- Option B-2: -35,528

## ADDITIONAL QUESTIONNAIRE RESULTS

Given the necessity for this project, if you must choose, which option would you prefer to see implemented?

- Option A: 1,210 or 76%
- Option B: 271 or 17%
- Option B-2: 104 or 7%

Raise rates for undergrounding lines: Yes: 847 or 53%, No: 738 or 47%